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Asthma Convulsivum

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H. M. Tucker

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Wm. H. Jackson

Admiral Cochrane

Admiral Cochrane

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An

Inaugural

Thesis

on

Asthma

By

W^m F. Gaines

Of

Virginia

The Thesis is the whole good; Missing at
page 7 faulty, at the place desired.

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Asthma is defined a difficult respiration returning, at intervals with a stricture across the breast, a wheezing, hard dry cough at first, but as the paroxysm declines, expectoration comes on and the cough is more free and less distressing which is followed by a remission.

The causes of asthma are numerous and may be divided into those which act directly on the lungs and those which act indirectly through the medium of the general system -

Of the former are offensive matters brought in contact with the lungs in respiration as the vapour of lead, arsenic &c, the smell of Scheac has excited a Paroxysm, and Dr Chopman mentions the case of a student of medicine

who could not weigh out this article without being attacked with a paroxysm, this high degree of sensibility of the lungs arising from idiosyncrasy seems to have been more easily called into action by the odour of Ipecac than by other substances which are more offensive, and which in all probability, would excite a paroxysm in other asthmatics more readily than Ipecac-

These peculiarities of constitution should be taken advantage of in guarding against the exciting causes; the irrespirable gases, especially carbonic acid gas will bring on a fit, the state of the atmosphere has a great influence in the production of this disease and Sir John Floyer in speaking of his own case, says he lived twelve years

in Oxford during, which time he suffered comparatively little from asthma but whenever he visited Staffordshire, his native place, that he was attacked with two or three paroxysms, this is a fine illustration of the influence of different situations over the asthmatic. the rarity of the atmosphere increases the susceptibility to this disease and if it already exist, it is aggravated by the rarefaction, for as the rarity is augmented so is the pressure on the lungs diminished as well as the quantity of oxygen which is afforded the pulmonary apparatus thereby producing this laborious respiration; It is stated by writers that travellers have suffered much from this cause when they were travelling over very high mountains

and Dr Chapman in a note on res-
piration in Riche and mentions a
very interesting case of this kind, which
he derived from the writings of
DesSaunures; for it appears when this
writer was travelling over Mont Blanc
that as he came near the top, his
breathing, was much affected and that
he could advance but a few steps
without stopping to relieve his dif-
ficult respiration; the mules of the
writer were likewise affected, for
they panted strongly and from
their mournful cries appeared to
have a painful sensation in the chest.
In this case the pulse was quickened,
there was a throbbing of the arteries,
palpitation of the heart, vertigo, dim-
ness of sight, &c. & the traveller was



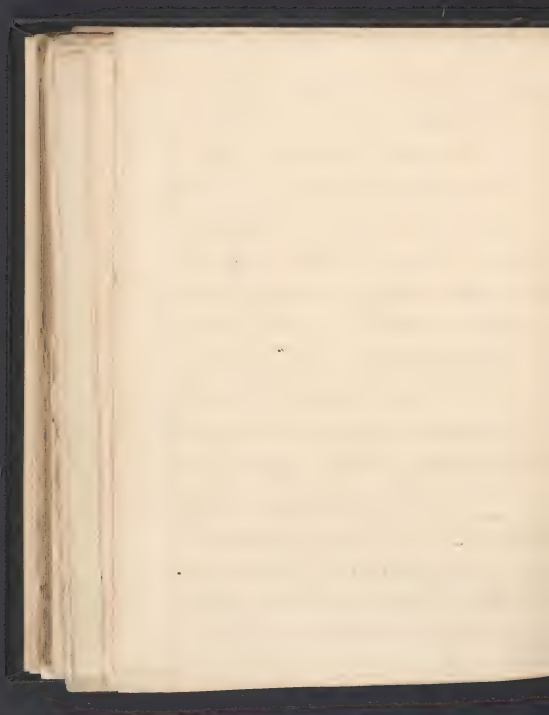
compelled to sit down to prevent fainting, in many instances to these distressing affections were added nausea, a loathing of food, and an aversion to spirituous liquors, but on meeting a short time they all left him in the enjoyment of perfect health, but returned as soon as he attempted to continue his journey; rest and cold water alone afforded relief to the traveller -

Cold, dry, warmth and moisture are also exciting causes, the first seems to act by checking cutaneous perspiration and directing action from the surface to the lungs; Cullen thinks that this takes place more frequently in those who are subject to this disease in winter and who have a catarrhal affection accompanying it, some are particularly



affected by cold, and the same writer says that a warm chamber or the warm baths will, frequently, give rise to a Paroxysm, also a change from a cold to a warmer atmosphere such persons are more liable to be attacked in summer than winter -

From the experience of Dr Chapman it appears that the air of the country and suburbs is more unfavourable to the asthmatic disposition than the air of crowded cities, and the air of different cities varies very much in this respect without any sensible difference in the state of the atmosphere, for he asserts that the air of Baltimore is more favourable to asthma than that of Philadelphia. Sir John Floyer mentions a case



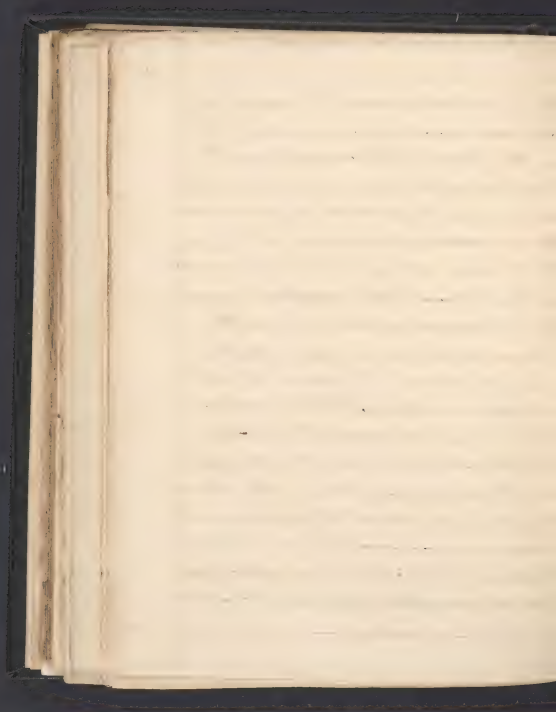
when a baroxgam was brought on by
 smoking to relieve a pain in the sto-
 mach; Thomas adds to these exciting
 causes, *if* *fluor* of new Lay, sealing
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Those which act indirectly
 through the medium of the system
 are a disordered state of the alimen-
 tary canal, worms, indigestible Food,
 an over-distention of the stomach,
 constipation, a suppression of any accu-
 stomed evacuation as the ~~menstrual~~
 or haemorrhoidal, (Dr Bree says as
 soon as the discharge is restored, the
 disease disappears) to these causes
 may be added rebelled eruptions
 and a metastasis of other diseases as
 Gout &c. Dr Bree enumerates among
 the causes violent vomiting or purging,



the want of food, the neglect of regular meals and a sudden increase in the force of the circulation; the passions of the mind are predisposing or exciting causes, anger increases the circulatory force and according to Dr Boer determines the fluid parts of the blood to the excretories in great excretion and quantity, hence the flow of saliva is augmented, Joy seems to act on the same principle while Love, Grief, Terror distress the mind and relax the habit—

The asthmatic cannot indulge in any kind of dissipation with impunity, if he give rein to his glowing passion in venereal excess he runs the risk of a long train of sufferings for a momentary gratification, which



is but enjoyed, to lose"; heavy suppers are attended with injurious consequences and Dr Bree says whatever is improper in Dyspepsia is equally so in asthma; intense study is numbered among the causes of this disease. It impairs the digestive powers of the stomach and extends its influence to the lungs, which are so intimately connected with this organ —

The premonitory symptoms are flatulency, distention of the stomach a dull and heavy pain over the forehead and eyes, eructation of wind accompanied with water sometimes insipid at other times sour, the weight over the eyes becomes more violent as night approaches and the patient feels anxious,



has a shortness of breath, anxiety at the
 precordia attended with restlessness;
 about this time company is very
 disagreeable to the patient which seems
 to produce a heat of body, (but there
 is in reality no augmentation of tempe-
 rature,) and difficult respiration;
 there is also in some cases a sense of
 tingling and heat in the neck, ears and
 breast with the irritability of temper,
 these symptoms warn the patient of
 the approaching paroxysm. I recol-
 lect to have seen a case two or three years ago
 in which the patient as soon as he
 was threatened with an attack would
 request the persons present to leave
 the room and to throw open the
 doors and windows as he could scarcely
 breathe when there were many persons



in the room or when the doors and windows were closed and he would enjoin it on his attendants not to walk about the floor, as it gave him much anxiety and distress, in this case the paroxysm generally came on between 12 & 1 o'clock at night, in most instances the disease makes its attack during the night, but occasionally during the day, Dr. Chopman says the paroxysm usually comes on after the first sleep; on awaking there is a sense of stricture across the chest, the respiration becomes more difficult and the patient is now compelled to change his recumbent to an erect posture, and with seeming suffocation he desires fresh air to be freely admitted into the room, his voice is now much



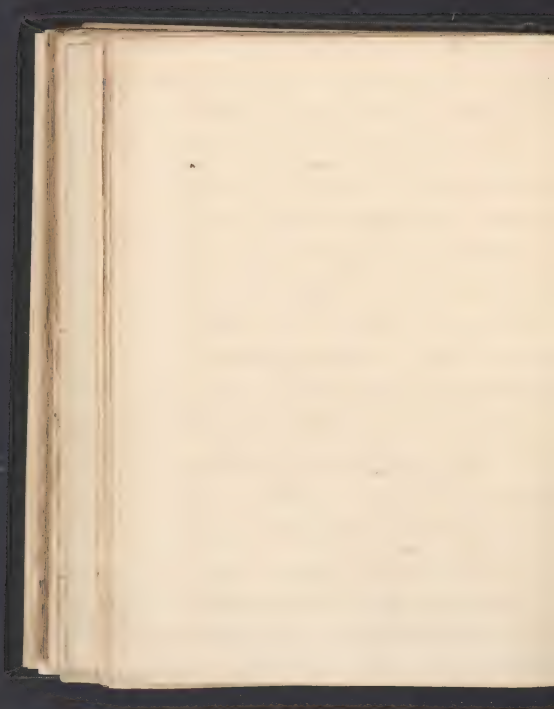
affected, the difficulty of breathing increases accompanied with wheezing, the pain is augmented by an attempt to speak which is followed by a disposition to cough, which is small, dry and interrupted, the pulse is small, quick and feeble, sometimes natural, the face is pale and shrunk or turgid and flushed with thirst and heat where there is the full excitement, during the paroxysm the urine is pale and voided in large quantities, but on the decline of the paroxysm it is high coloured, of its usual quantity and depositing a sediment.

These symptoms generally continue for several hours when they gradually subside, the breathing is slower and less laborious, the pulse is not so quick

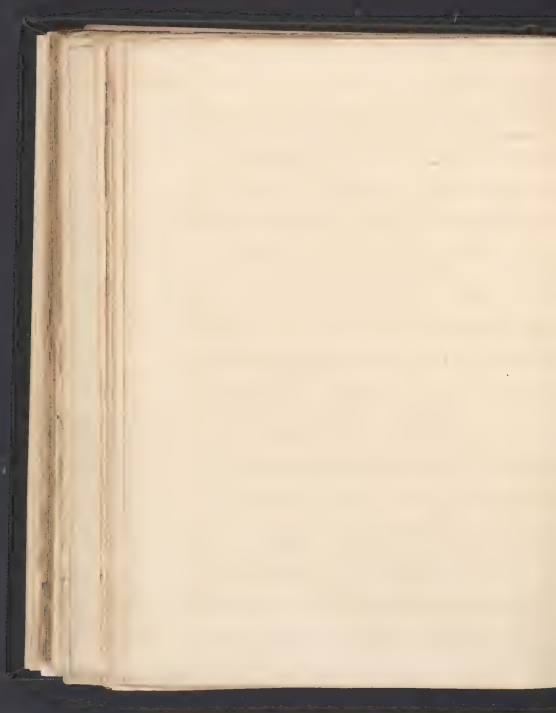


but fuller and more natural a hem-
-spiration now breaks out and the cough
is more free, expectoration ensues which
is more and more copious until the
harosyom goes off; Dr Bree says
the expectorated mucus has in some in-
stances a sweetish, at other times a saline
taste and is tinged with black which
he believes to be the Carbon of the
blood, which in a healthy state is
given off in carbonic acid, the same
writer states that Morgagni in three
cases out of four which he examined
found this black-sooty mucus in the
glands, which presented the appear-
ance of charcoal diluted with a large
quantity of water.

About this time the
patient falls into a much wished for

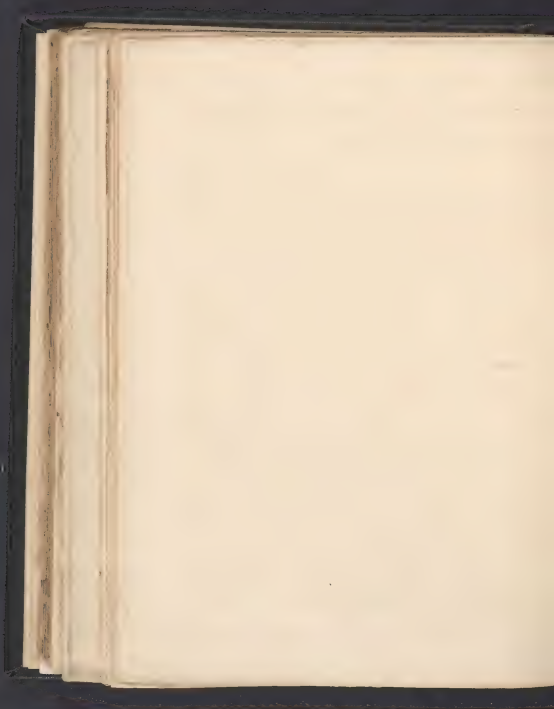


sleep and as the powers of life seem to
 be nearly exhausted by the constant ex-
 ertion and labour to support itself
 this restoration of nature is induced
 to recruit the powers of the constitution
 and render it capable of resisting the
 repeated attacks which it is doomed to
 suffer; this state of repose is attended
 with wheezing, which may continue for
 several days; in the morning, the pa-
 tient feels much relieved, still however
 there is a slight difficulty of breathing,
 with some stricture across the breast;
 these symptoms are aggravated when
 the patient is in a horizontal position,
 Sir John Floyer says he could hut
 off a fit for several nights by sitting
 up late and that he was frequently
 compelled to leave his bed and sleep



in a chair the first night of the attack
 particularly in summer—

In the afternoon
 there is much flatulency of the stomach
 and a great propensity to sleep, as
 night approaches these symptoms become
 more violent followed by difficulty
 of breathing, which gradually increases
 until it is as distressing as it was the
 preceding night which runs the same
 course; "But says Cullen. if the respi-
 ration has not been much interrupted
 during the day, and the patient has
 slept some in the early part of the
 night he is however wakened about mid-
 night or at some time between mid-
 night and 2 o'clock in the morning,
 and is then seized suddenly, with a fit
 of difficult breathing."



In this way the paroxysms return for several successive nights, but generally after three or four nights spent in this agonizing manner the remissions are more complete and of longer duration especially when the expectoration is copious during the day—

This disease may be traced in many instances to an hereditary predisposition, and when once it has been violent and continued for a considerable time the susceptibility to morbid impressions is so easily awakened that the least exciting cause will bring on a fit of asthma, or a slight change of weather, distention of the stomach, a ligature around the chest or in some instances even a plaster on it will excite the disease,



overexercise or any thing which hurried
the circulation may be an exciting cause.

It appears that males are more sub-
ject to this disease than females, it rarely
makes its appearance before the age
of puberty; Cullen says he has not ob-
served it to occur more frequently in
one temperament than another while

Dr. Bree on the contrary asserts that
the melancholic or sanguine tempera-
ment is the most liable to it, and
that the sanguine are more apt to
fall into consumption - From the
observations of writers generally this
disease terminates frequently in Phthisis

Pulmonalis, Hydrothorax or in aneur-
ism of the heart or some large blood-
vessel; under these circumstances the dis-
ease in most cases proves fatal, but



when it is not complicated with other diseases it may continue for many years without causing death, it has in some instances terminated the life of the patient in a short time and Cullen thinks it always ends fatally at length, this disease is more apt to run into pulmonary consumption when it is frequently brought on by Catarrhs; there is no immediate danger to be apprehended from asthma as it usually occurs although the patient may be threatened with instantaneous suffocations when the disease has continued for a long time the feet in many cases are oedematous and there is a general hydropic tendency.

The pathology of asthma still remains in much obscurity



Cullen believes the proximate cause of this disease to be a preternatural and in some measure a spasmodic constriction of the muscular fibres of the bronchia, which not only prevents the dilatation of the bronchia necessary to a free and full inspiration, but gives also a rigidity which prevents a free and full expiration, which constriction is easily excited by a turgescence of the vessels of the lungs."

Dr. Boer thinks irritation situated within the air-passages of the lungs and arising from an effusion of serum or from acrid acrimony is the true proximate cause of consumptive asthma, but as the effusion of serum seems to be the effect and not the cause I think this part of his theory



is objectionable; Dr Chapman thinks there is always a spasmodic constriction of the lungs; it is not to be expected that I should support any theory on this subject, but if I were allowed to advocate either it would be Dr Chapman's, as all of his theories are so ably and so handsomely sustained and so concordant with my ideas of disease and moreover as his practice deduced from them is managed with so much skill and success, it would be arrogance in me to call in question their correctness. Dissections have not thrown much light on this disease, after sudden death the lungs have presented a perfectly healthy appearance and there were no traces of morbid action, this is not

the case when the disease has been of long standing, Morgagni has found the lungs in a diseased state and the air-cavities filled with frothy mucus, the heart was in some instances diseased, he mentions a case where affluvia was running, out of the patient's mouth while dying -

Cullen says the diagnosis is easy, when it comes on by fits it may be distinguished from other species of dyspnoea, whose causes being more constantly applied, produce therefore a more constant difficulty of breathing; it is seldom that asthma has been cured particularly when of long standing, but when it occurs in early life, in a good constitution &c. is not a hereditary disease, I expect it may in many instances

be cured if medical aid is called in before the disease gets too strong, & holds on the system—

The treatment is divided into that which is proper during the Incubation and that which is necessary in the remission—the utility of bloodletting in this disease seems to be a disputed point for while some writers denounce the practice others astrenuously support it, from the difficult transmission of blood through the lungs it would appear at first sight that this remedy, would afford more relief than any others, but from the testimony of some distinguished writers the beneficial effects of bloodletting have

I am short of their expectations; at
 the same time it is highly recommended
 by them when properly resorted to
 in the first stage of the disease and,
 especially when there is plethoric exis-
 tent. Blood letting is of the first im-
 portance in plethoric habits both
 to unload the pulmonary vessels and
 prevent the organic derangements which
 are often consequent on this disease,
 &c. &c. Chalmers says the pulse is not
 to be taken as a guide but the
 whole chain of circumstances must be
 considered and particularly the suf-
 fering of the patient, he also says
 there are cases in which venesection
 is absolutely injurious, under these cir-
 cumstances instead of general he re-
 commends topical bleeding, —

Cullen is very much in favour of bloodletting, in the first attacks and especially in young and plethoric persons and. He goes on to say, that it is evident under the frequent recurrence of fits, bloodletting cannot be frequently repeated, without exhausting, and weakening, the patient too much, but as the disease by continuing, generally takes off the plethoric state of the system so after the disease has continued for some time, I allude that bloodletting becomes less and less necessary? Dr Bree condemns bleeding in every species except the second which arises from actual anæmia, yet he admits that it may be beneficial before the effects of the lungs have injured themselves by

effusions, in the other species is such
 it does not shorten the Paroxysm but
 prevents exacerbations. I think the cases
 to which it is applicable and the cir-
 cumstances under which it should be
 employed have been sufficiently point-
 ed out above in Cullen—

Purgatives are nearly abandoned
 in this disease, they appear to have
 no decided efficacy in asthma and
 should be administered only with
 a view to keep the bowels soluble
 and prevent constipation, as this
 state of the primæ viæ sometimes
 excites a Paroxysm. Cullen says mel-
 licent crocata have given considerable
 relief in the paroxysm—Emetics
 are particularly called for in this
 disease both to relieve flatulency

of the stomach and other symptoms of indigestion as well as to direct actions from the lungs to the surface; Cullen says in certain cases where a fit was expected to come on in the course of ^{the} night a vomit given in the evening has frequently seemed to prevent it; a gentle emetic given during the p. m. system in many cases is of signal utility; although this practice has been condemned by some practitioners I should not hesitate to prescribe an emetic in the fit and where there is much debile movement I would precede it by sudorifics Dr Boerhaave who is opposed to this practice acknowledges that he has vomited freely in the commencement of the

Purgation with decided advantage.
 but he believes it to be generally inju-
 rious in this latter form. This con-
 sideration and I am supported by very
 high authority in my opinion, besides
 the very nature of the case seems to
 indicate the importance of emetics
 in the purgation, for here we have
 the stomach distended with flatulency
 which in many instances will of itself
 excite a set of morbid symptoms or
 dyspepsia often present themselves
 which may be effectually relieved
 removed by our emetics, under these
 circumstances. I think no physician
 would, in rejecting them, be just
 is impatient, I fear is deprived in this
 disease from the mildness and known
 efficacy of its operations, others may be

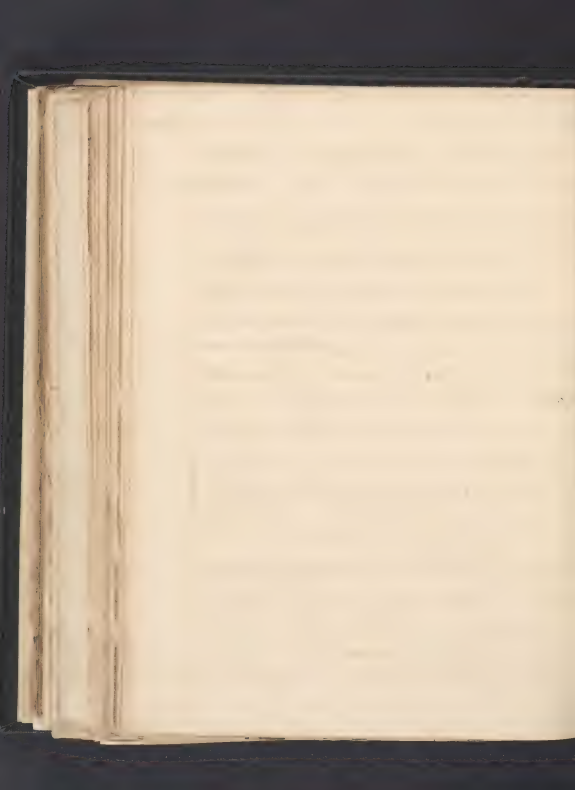
used, but ipecac seems to be more particularly suited to this disease than any other emetic, & therefore gives this medicine the preference, next to it he places tartar emetic and antimonial wine, it is a point yet undecided whether we should vomit or only nauseate in this disease, I think the proper practice would be to produce vomition, in the paroxysm particularly in the first, & to and when the alimentary canal is in a disordered condition, to remove all feculent matters; and during the intermission to nauseate with a view to promote expectoration and to produce an alterative effect—

Expectorants are much used in this disease and seem to have a very

decided effect in relieving the violent symptoms of the hemorrhage, the Squill is very applicable. In recent cases but when it occurs in old persons and has been of long standing, more stimulating expectorants are required as a combination of Squill and Senega &c, the powers of Squill are said to be increased by combining it with Spices.

Dr Chapman thinks a combination of Lact Ammoniac and Nitric acid is especially applicable to old Asthmatics - Antispasmodics have also a considerable reputation in this disease of these, Opium is generally chosen, if they are administered in the onset of the disease, before the excitement of the system is reduced they are injurious, but when there is no excitement

they may be advantageously employed,
 Dr Bree thinks they have no decided
 influence in shortening the paroxysm
 of the first species but that they are
 very well adapted to the fourth species
 in which the convulsive motion is kept
 up by habit, to effect his purpose he
 selects opium and says its powers are
 much enhanced by combining it with
 Ether; Blisters have not proven very
 useful in this disease, they are said
 to operate more kindly when applied
 to the extremities, large draughts of the
 coldest water have been recommended
 in the paroxysm also hot water, and
 strong coffee, it appears that Sir
 John Floyer used it with unequal-
 lled benefit in the latter part of his
 life, he had it made very strong,



and drank it without sugar or milk, when used in this way it is said in some instances to have relieved a paroxysm of spasmodic asthma, sitting with the feet near the fire and toasting them as it were has been tried and probably with a good effect; inhalation of vapour has sometimes proved beneficial by increasing expectoration and thereby relieving the lungs of oppression simple hot water and vinegar may be used or what is better a teaspoonful of Hoffmann's anodyne liquor and another of Laudanum which is a ~~concrete~~ prescription of J. P. Physicists he recommends the vapour to be inhaled for half an hour at a time; the extract of stramonium has been highly extolled as a palliative in Asthma, the root of

the plant is the part that is used, it is first dried and bruised and then it is smoked and the smoke inhaled, it frequently moderates the violence of the symptoms and abridges the paroxysms, the fumes coming in contact with the lungs produce a sense of warmth and increase expectoration, it sometimes however affords no relief to the suffering patient. Tobacco is said by some to be equally efficacious; although these articles sometimes palliate the disease still they are at other times mischievous and will aggravate the existing symptoms.

The preceding treatment is only applicable during the paroxysm, but the most important part yet remains to be accomplished, for we are now to direct our medical agents to the

evacuation of the disease, to break up
 the chain of morbid associations which
 habit, has established, and to impart
 tone and vigour to the system, to
 meet this indication tonics must be resorted
 to, and as the alimentary canal is gen-
 erally, in a relaxed and disordered con-
 dition our attention must be directed
 to the restoration of its healthy action,
 the preparations of Iron are well suited
 to this end, & Dr. Boce speaks very highly
 of them and goes so far as to say, that
 he has seen a Paroxysm cut short by
 the use of Pulvis Ferri in one grain
 doses every four hours after all other
 means had failed, their efficacy is much
 increased by combining them with bitters
 or Peruvian bark, if one tonic should
 fail, one should employ others and as

they lose their effect on the system by frequent repetition we must vary them and in this way we may return to the article first employed with a good effect, in this manner alone can we expect to make a permanent cure, Dr Boer attributes the want of success in many cases to the too short continuance of these remedies for says he in order that they should have a decidedly invigorating effect and impart tone to the stomach and system generally they should be steadily persevered in for a considerable length of time — In more violent cases where the disease is kept up by effusion of serum in the lungs diuretics must be employed to take off the determination from the lungs to the kidneys

the Squill and Linckea seem to have
 the preference, digitalis has been re-
 commended by some writers but it
 seems to be inferior to the two an-
 ticles above mentioned, a combination
 of Colamel and Squill is recommended
 at this stage of the disease by Dr
 Chapman; Garlic has been used in
 this disease also two pills probably
 with a good effect, Myrror has been
 employed and its powers are said
 to be increased by Pernissachark
 or some vegetable bitter—Cold
 nothing is spoken of in the highest
 terms by Dr Bree, he says it
 is one of the most valuable reme-
 dies in asthma in the absence of the
 paroxysm; as we are so well ac-
 quainted with its known powers in

intermittents which are kept up by habit we may, reasoning from analogy conclude that it is equally applicable to this form of asthma,

And due attention to diet is of primary importance to the establishment of a perfect cure, every excess in eating and drinking must be cautiously avoided; the diet should be of light and digestible food, every species of food which produces flatulency must be proscribed, all fermented, spirituous and vinous liquors are injurious; the changes of weather must be guarded against as they are exciting causes—

As in many cases this disease depends upon an hereditary predisposition which hobbles the skill

and discriminating, judgement of the most enlightened practitioners, we can only expect to prevent its return by avoiding the exciting causes—Flannel should be worn next to the skin to keep up a glow upon the surface, this is particularly important and I should suppose a buckskin shirt would answer a very good purpose in this disease; exercise should not be neglected as riding on horseback or in a carriage, the former is the best, sailing is also beneficial, hard labour or long jaunties sometimes effect a cure; the toil and fatigue of a camp have been known to remove asthma of long standing, Dr Chapman mentions some cases which were cured during the last war by the exposure and.

hardships of military life; the place of residence must be determined on by the asthmatic for while some will find themselves most comfortably situated in a large city, others cannot breathe except in the pure air of the country; Cullen thinks the air of low grounds is tolerably free and dry is generally more suitable to asthmatics than the air of mountains.

The most skillful practitioner will often be mortified to see that his remedies have no command over this obstinate and indomitable disease, and is compelled to abandon it and confide in the resources of nature, which are in most cases incompetent to the task; and thus the patient is forced to drag out a miserable existence.

